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Pricing in the Chemical Industry
Boost your pricing power



The Power of Pricing

The evolution of profitability and gross margin performance of the roughly 250 existing chemical and materials companies globally over the past one and a half decade (Fig. 1) reveals a rather negative perspective and investment potential. The chemical sector responded to this evolution by cutting SG&A and R&D expenses (Fig. 2). Regardless of the decoupling of oil and gas prices in the US (marked by the crisis of the sub primes in 2008), the chemical sector was already losing a part of its attractiveness, even before regions such as Europe and Asia were confronted with the disadvantage at the level of feedstock's and energy cost.

As a consequence, many chemical companies are looking for opportunities to differentiate and grow organically. To support this, Deloitte has developed an approach called Advanced Materials Systems (AMS)² which reignites growth and addresses unmet market needs. Global megatrends and their industry responses, have opened up significant opportunities to capture value in new markets through functional solutions, leveraging innovative combinations of materials, processing technologies, new business models, and partnerships. DTTL's Global Manufacturing Industry Group's research has shown that solution providers create more economic value overall than material suppliers. AMS helps companies capture the value they create in the market. Introducing smart ways of pricing is indispensable to bring these innovative solutions successful to the markets.

Gross Margins 1998-2012

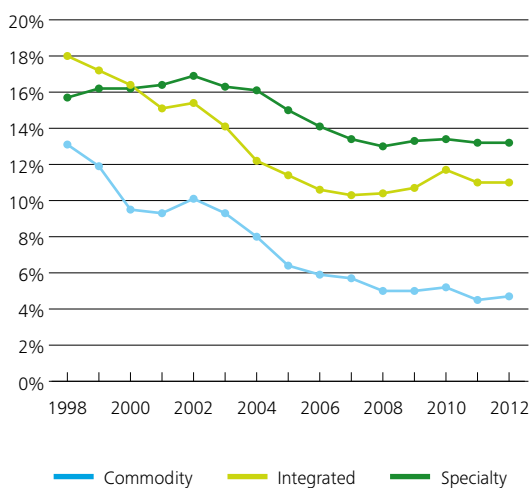


Figure 1: Eroding Gross Margins ¹

R&D Expense % Revenue 1998-2012

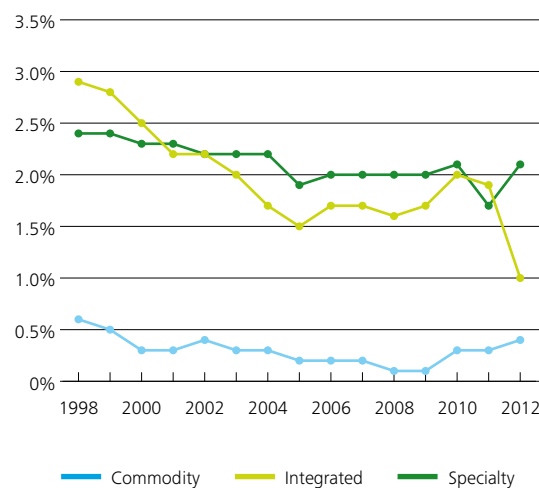
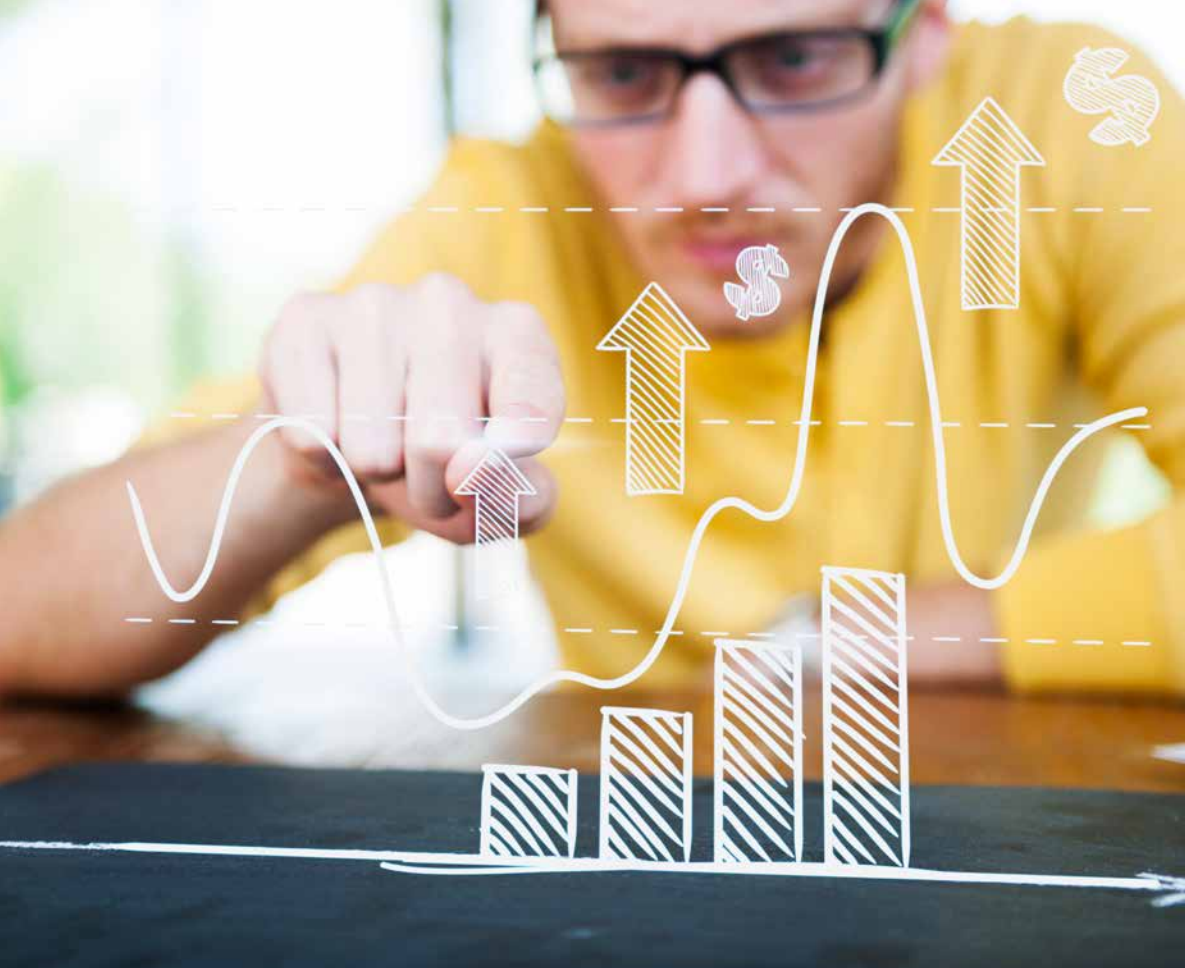


Figure 2: R&D Expense % Revenue ¹

¹ Data Monitor, *The Fine Chemicals Industry* by Peter Pollak, SRI Consulting, Capital IQ and Deloitte Primary Research of 231 Global Chemical Companies with public data

² *Driving innovation: Advanced Material Systems*" (Deloitte University Press)



The typical chemical company comprises a portfolio of businesses, with activities across the value chain. Disaggregating each of the individual business units into its product line/customer combinations, enables a segmented approach to pricing and profitability management. Different pricing strategies can be applied across the value chain to maximise value, from base chemicals to the finished products (Fig. 3). The table emphasises that the further downstream your business strategy focuses, the stronger the potential for solid returns to be captured by a renewed pricing strategy.

“60% of the chemical companies indicated that a dedicated price optimisation strategy is a ‘must have’ business initiative. And today companies are still suffering to determine the right pricing method for their solutions.”

Pricing Maturity Survey, EPP 2013

		Products	Pricing strategy
Down Stream  Up Stream	End Markets	Consumer product	Retail pricing
	Producer C	Finished Material	Value-based pricing
	Producer B	Intermediates-Specialty	Value-based pricing Predictive pricing
	Producer A	Base	Value-added services

Figure 3: Differentiating Pricing Power

Escaping the Commodity Trap: Value-added services

Base chemicals, such as petrochemicals and basic inorganics, are characterised by high volumes, limited differentiation and a price-driven customer purchasing process. The most obvious and winning strategy for competing in this market would be Cost Leadership, but this is only sustainable for a few players. These companies, driven by operational excellence and exploiting their scale of production, can offer competitive pricing to customers willing to buy in bulk. In addition, companies can focus on service compression to further contain (overhead) costs, such as sales and service. Already in 2002, Dow Corning launched Xiameter³, a new business model comprising an online-managed, low-cost, no-frills sales channel for its commodity silicones that does not require technical service and support.

A slide into the commodity trap can start at any of the 3 elements. These elements reinforce each other.

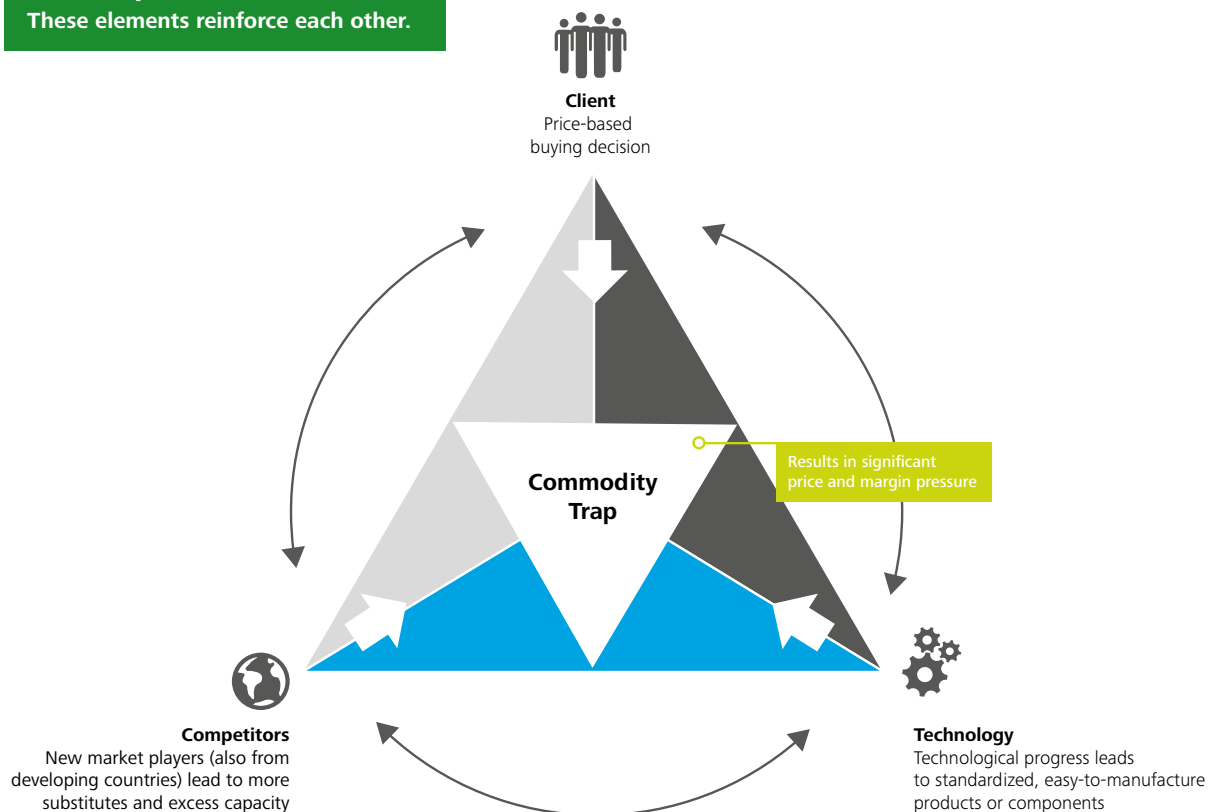


Figure 4: The Commodity Trap⁴

³ Xiameter, *Industry Value Chain Strategies*, August 2009, AMR research

⁴ Roland Berger – April 2014

An alternative strategy for escaping the Commodity Trap (Fig. 4) is to introduce value-added services and turn the base chemical into a more differentiated product. Identifying and adding features to these products allows a company to charge its customers premium prices in a traditionally cost-oriented segment.

A typical value-added service is to venture further downstream in the value chain. For example, a large chemical company took over the quality management of its customer. The customer immediately gained from a reduced lead time and increased quality. The chemical company, in turn, could charge for these benefits, increasing its margins and profitability. In another example, the commodity firm was focusing on just-in-time delivery. Customers no longer had to store the products in their own warehouses but could order the quantities just before they were needed and reduce inventory costs. These reductions are worth a premium to both the customer and the producer. By focusing on a superior and differentiated product, companies can omit one or more steps of the value chain and sell their products to the end-market without any intermediary.

A successful escape from the Commodity Trap comprises three steps: identify the trap you face; escape the trap by differentiating the product; and develop distinctive and hard-to-copy value propositions to turn the trap to your own advantage.

1. Identify the trap – The approach starts with understanding what kind of commodity trap is developing in the industry and then identifying and resolving the dilemmas and challenges that are posed by the trap. In this case, chemical companies are unable to charge more for what they are offering.
2. Escape the trap – Develop an attractive value proposition for existing customers or more downstream trading partners, based on unique value creation and willingness-to-pay insights (eg. Improved processing, alternative business model) (Fig. 5). Add services to the product that allows for premium pricing. These benefits can be identified by close collaboration with the customer.
3. Turn the trap to your own advantage – By adding new features, products escape from commoditisation and allows to charge a premium and boost your margins without losing market share. The amount to charge for these value-added services can be determined by value-based pricing, which is discussed further on.

Escaping the commodity trap

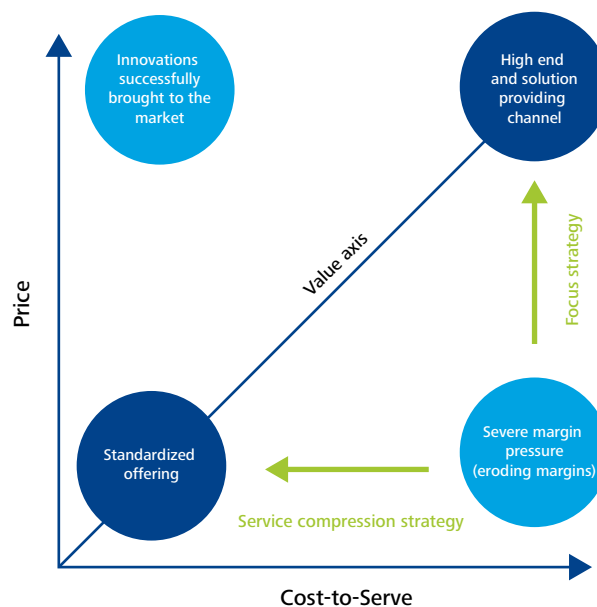


Figure 5: How to escape a situation with eroding margins?

Profiting from volatility: Predictive pricing

Margins for base chemicals are relatively low compared to specialty chemicals, and approximately 60% (base) and 35% (specialty) of the cost structure is linked to raw materials and energy costs (Fig. 6). In this segment, industry cycles trigger fluctuating product margins, and margin pressure for the assets on the less favourable side of the cost curve (Fig. 7). This volatility can be hedged by introducing predictive pricing schemes.

Typical Cost/Margin Structure in the Business of Chemistry by Segment

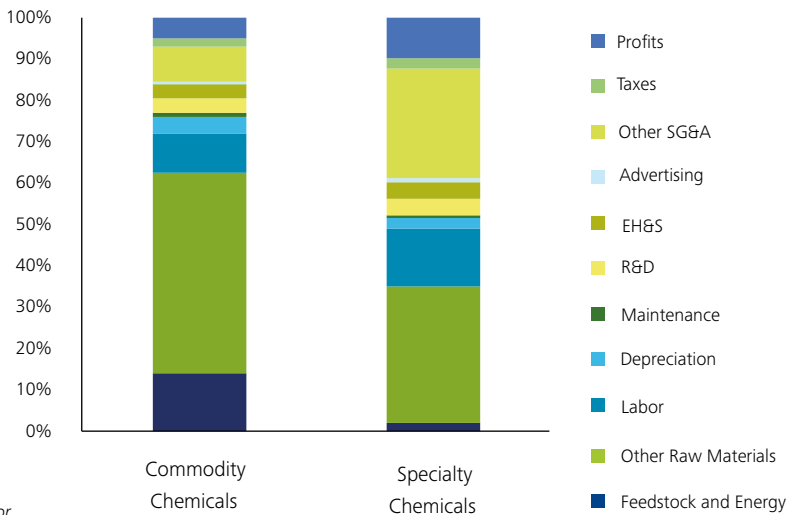
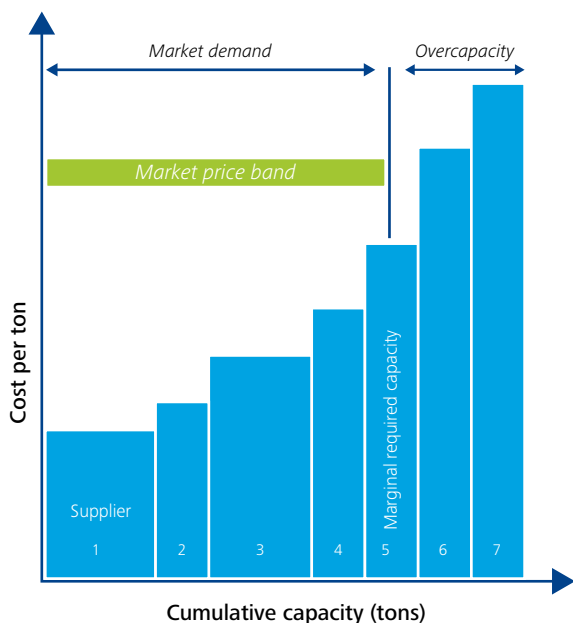


Figure 6: Margin for base and specialty chemicals

Note: The proportion of various costs in the chart are approximations

Figure 7: Industry Cost Curves



A successful implementation of predictive pricing requires three steps: determine price drivers, proactively manage capacity and develop an integrated model.

1. Determine price drivers – First, the key drivers of the market price need to be determined. Examples are competitors’ decisions, feedstock availability, energy cost, consumer market demand, emerging substitutes and environmental restrictions. Subsequently the main information sources for forecasting analysis need to be identified.
2. Manage capacity – External as well as internal dynamics create the need for constant monitoring and adjustment of capacity levels and policies. Today’s volatility in the key drivers means capacity management becomes indispensable within every element of the supply chain. Planning tools allow managers to plan rather than react and to respond more rapidly. These tools create transparency in the cost structure, which leads to a greater understanding of the price level and the potential impact on profitability.
3. Develop an integrated model – These insights have to be gathered into one integrated model that allows more transparency of the market price. By incorporating all the relevant market information, price setting shifts from a price set by the market to a manageable price within the constraints of the market. Based on analytics, companies can set optimal pricing strategies and benefit from deep insights into spreads. A company identifying that a plant will be down earlier than its competitors has a significant advantage, as it usually takes two to three quarters to effectively raise prices. A company that does not have insights into the relationship between costs and pricing is probably out of phase, losing money by not charging enough or losing market share by overcharging.

With an integrated model based on the right drivers and accurate forecasts, commercial leadership can use predictive pricing as a key differentiator instead of a threat that should be hedged.

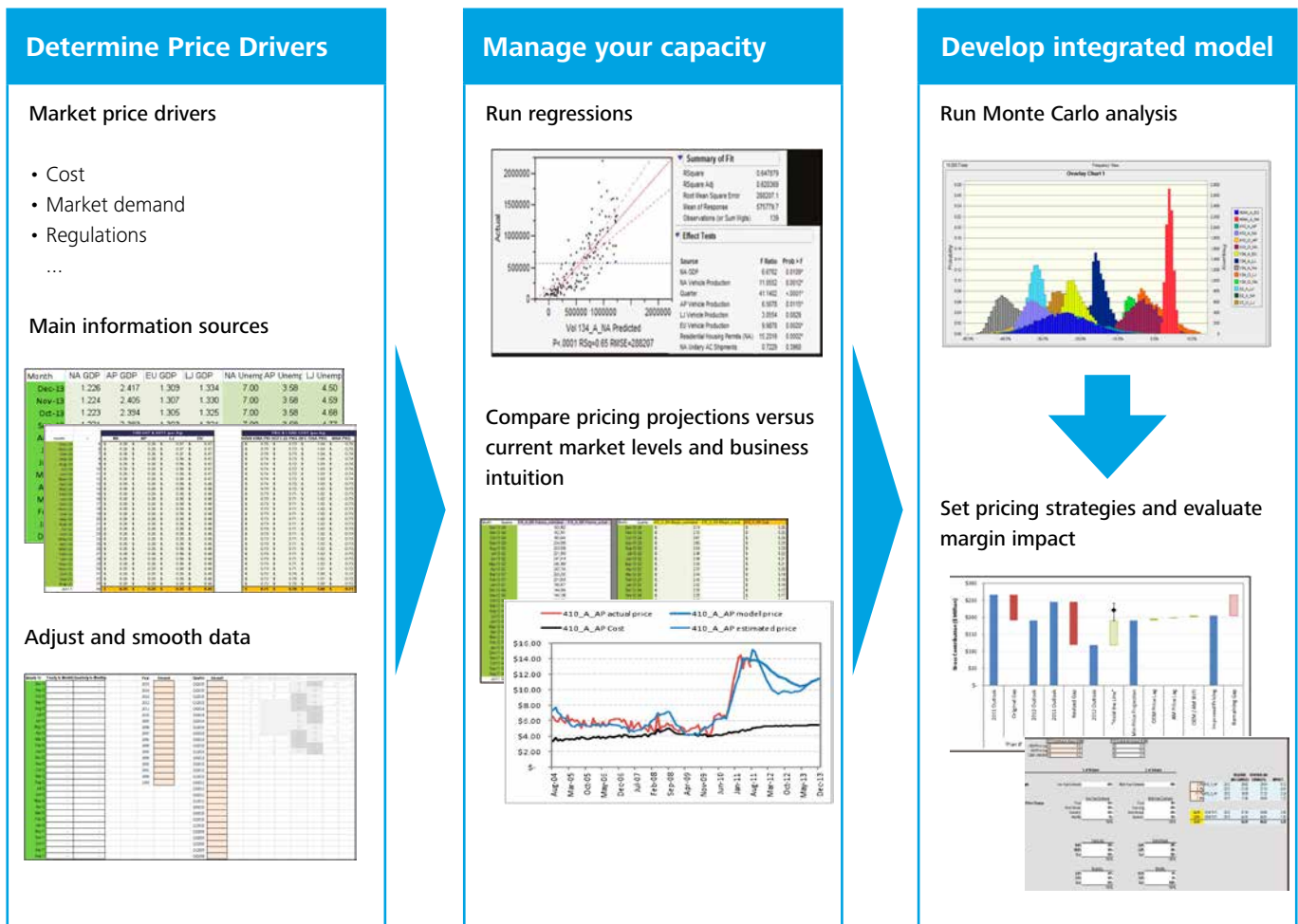


Figure 8: Implementation of predictive pricing

Case Study – Predictive pricing

Deloitte Consulting recently worked with a chemical company to evaluate and size the risks of the second order pricing effect of its deals. Second Order Pricing Effects (SOPE) are the long-term impacts on market price levels influenced by competitors, internal channels, other resellers, and customers. Without understanding the factors that influence SOPE, short-term pricing decisions may erode overall business profitability in the long run.

For this project three type of reactions were considered: the competitive reaction, the buyers’ reaction and network effects. The different factors for each of these three types were identified and assessed in depth through several simulations to evaluate the impact on volume and profitability. Based on these insights, a decision support tool was put in place to make optimal and sustainable pricing decisions and even to reject certain deals if they would have a negative impact overall.

Key takeaways

1. Work cross-BU - When analysing and implementing this pricing approach, it is key to execute and align across BU’s that sell the same or similar products, as a conflict of interest might exist when assessing both short and long term impact of accepting/rejecting specific deals.
2. Keep it simple - By adding different parameters, the complexity of the model will rapidly increase. It is vital to define parameters that are easy and understandable for the whole organisation. In addition, the implementation of a professional analytical tool will cover the interdependencies and introduce flexibility in the model.

Price the value for your customer



Compared to base chemicals, specialty chemicals are low-volume and high value-added products. Additionally, the demand side is quite diverse; customers differ in what they want, when they want it, why they want it, and how they want it. This is where value-based pricing, an innovative way of pricing in order to capture more of the value, becomes relevant.

Although value-based pricing is the most powerful lever to profitability, many companies have difficulties in assessing the maximum value of a product as perceived by their customers. Achieving this price optimisation can be difficult because it requires time, effort and relatively sophisticated analytics.

Value-based pricing starts with a deep understanding of customer value drivers and value attributes. Next, these attributes should be quantified and the added value offered should be compared with the next best alternative. Focus on those value drivers that allow for differentiation from competition and communicate this incremental value to the customer.

Deep insights into both customers' needs and the value proposition of the competition in the market are key to price setting. By using price/value maps (Fig. 9) the value components of products will become more comprehensible, which allows for segmentation of the customer base, necessary to fully exploit differentiation potential. Once the segmentation is in place, specific pricing goals per segment can be defined (ideally also per product line, customer, etc. where possible).

The customer-perceived value of a product can reflect need and use.

1. Need - To price by need, the producer must discover what a customer considers important (such as pre and post-sale support or a product's specific performance); create an offering that addresses the need; and then price the product according to the customer's value assessment metrics. The greater the need, the more the customer is generally willing to pay.
2. Use - To price by use, the producer begins with an understanding of the customer's desired preferences. The more urgent or complex the purchase, the more the customer should be willing to pay. For example, when a product is used in a hazardous environment, quality expectations are usually higher and a higher price can be charged than when it is used in a regular environment. In practice, this simple concept is often complicated by issues of price transparency and market channels that may make such price discrimination difficult. In those cases, a good solution might "tier" product performance to minimize spillover effects; classic examples include certifications or quality/purity levels.

Understanding how to capture what customers perceive as valuable provides great opportunities for better performance. Without value-based pricing, the risk is high that a chemical company will over-serve or under-serve a customer. The penalty is the same for either mistake: a loss of margin.

Market Shares Shift Based on Value Position

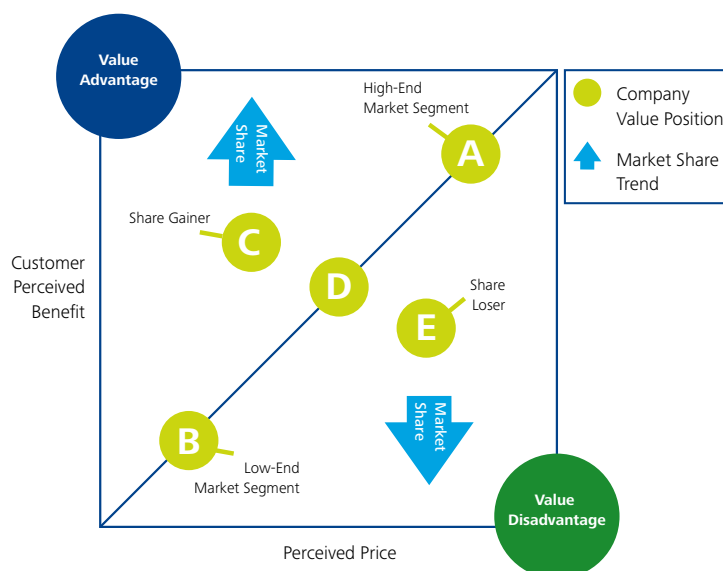


Figure 9: Effective value mapping

Price execution makes all the difference

It is not sufficient to introduce the right pricing methods. The biggest challenge lies in the implementation and execution of the proposed strategy. A successful pricing implementation relies on four rules.

1. Engage your management - The commitment of top management to invest in powerful pricing programmes is crucial to the successful execution of the pricing strategy. That is only possible when management is convinced that these investments will result in a sufficiently large improvement.
2. Provide the right tools and incentives for the sales force – Automated pricing tools help the sales force identify and put a price on customer perceived value. Additionally, the incentives for marketing and sales need to be aligned with the pricing objectives. Finally, train and coach your sales force in these guidelines and tools.
3. Never walk alone - The lack of full integration in commercial processes and alignment with marketing, sales and finance presents a serious challenge. To leverage the full potential of pricing power, companies need to make significant changes to the way in which their organisations operate. Besides changing the way that pricing decisions are made, it also requires a review of how your target customers are selected, how your value is communicated etc.
4. Monitor continuously – The task of optimising prices is a continuous effort. All kinds of pressures – from shifts in an individual customer’s strategy to trends in the global or environmental marketplace – require the continual refinement of pricing strategy.



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